

## ABSTRACT

**[0031]** The present invention is a system, method and apparatus for selecting a cache memory allocation to provide an optimized target cache hit rate in a caching component of a content delivery system. The method of the invention can include identifying a current cache size and a contemporaneously experienced trace footprint. A hit rate produced in response to the current cache size and the contemporaneously experienced trace footprint can be determined and a Zipf alpha coefficient can be computed for the current cache size, trace footprint and hit rate. An optimal hit rate can be selected and an optimal cache size for the Zipf alpha coefficient, trace footprint and optimal hit rate can be computed in consequence. Once the optimal cache size has been computed, the cache memory allocation can be modified based upon the optimal cache size.